

Claims

Claim 1 (original): A substantially pure or isolated oligodeoxynucleotide of at least about 8 nucleotides in length, wherein:

the oligodeoxynucleotide forms a G-tetrad;
the oligodeoxynucleotide has a CD value of greater than about 2.9;
the number of guanosines is at least two; and
wherein the oligodeoxynucleotide suppresses an immune response.

Claim 2 (original): The oligodeoxynucleotide of claim 1, wherein the oligodeoxynucleotide has a CD value of greater than about 3.0.

Claim 3 (original): The oligodeoxynucleotide of claim 1, wherein the oligodeoxynucleotide has a CD value of greater than about 3.2.

Claim 4 (original): The oligodeoxynucleotide of claim 1, wherein the oligodeoxynucleotide is from about 8 to about 100 nucleotides in length.

Claim 5 (original): The oligodeoxynucleotide of claim 1, wherein the oligodeoxynucleotide is from about 10 to about 30 nucleotides in length.

Claim 6 (original): The oligodeoxynucleotide of claim 1, wherein the oligodeoxynucleotide comprises multiple guanosine-rich sequences.

Claim 7 (original): The oligodeoxynucleotide of claim 6, wherein the oligodeoxynucleotide comprises from about two to about 20 guanosine-rich sequences.

Claim 8 (canceled).

Claim 9 (original): The oligodeoxynucleotide of claim 1, wherein the oligodeoxynucleotide comprises at least one TTAGGG motif.

Claim 10 (original): The oligodeoxynucleotide of claim 9, wherein the oligodeoxynucleotide comprises multiple TTAGGG motifs.

Claims 11-12 (canceled).

Claim 13 (original): The oligodeoxynucleotide of claim 9, wherein the oligodeoxynucleotide further comprises a CpG motif, and wherein at least one TTAGGG motif is 5' to the CpG motif.

Claim 14 (original): The oligodeoxynucleotide of claim 9, wherein the oligodeoxynucleotide further comprises a CpG motif, wherein the TTAGGG motif is 3' to the CpG motif, and wherein the TTAGGG motif is separated from the CpG motif by at least ten nucleotides.

Claim 15 (original): The oligodeoxynucleotide of claim 1, wherein the oligodeoxynucleotide comprises a sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, SEQ ID NO: 10, SEQ ID NO: 11, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14, SEQ ID NO: 15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22, SEQ ID NO: 23, SEQ ID NO: 24, and SEQ ID NO: 25.

Claim 16 (original): The oligodeoxynucleotide of claim 1, wherein the oligodeoxynucleotide is modified to prevent degradation.

Claim 17 (currently amended): The oligodeoxynucleotide of claim 1, wherein the oligodeoxynucleotide [has] comprises a phosphate backbone modification.

Claims 18-22 (canceled).

Claim 23 (original): A pharmacological composition comprising the oligodeoxynucleotide of claim 1 and a pharmacologically acceptable carrier.

Claim 24 (currently amended): A method of treating or preventing an inflammatory ~~arthropathies~~ arthropathy in a subject comprising administering a therapeutically effective amount of the oligodeoxynucleotide of claim 1 to a subject having or at risk of developing an inflammatory ~~arthropathies~~ arthropathy, thereby treating or preventing the inflammatory ~~arthropathies~~ arthropathy.

Claim 25(original): The method of claim 24, wherein the oligodeoxynucleotide is administered topically, parenterally, orally, intravenously, intra-muscularly, sub-cutaneously, or intra-articularly.

Claim 26 (original): The method of claim 24, wherein the oligodeoxynucleotide has a CD value of greater than about 3.0.

Claim 27 (original): The method of claim 24, wherein the oligodeoxynucleotide has a CD value of greater than about 3.2.

Claim 28 (original): The method of claim 24, wherein the oligodeoxynucleotide is from about 8 to about 100 nucleotides in length.

Claim 29 (original): The method of claim 24, wherein the oligodeoxynucleotide is from about 10 to about 30 nucleotides in length.

Claim 30 (original): The method of claim 24, wherein the oligodeoxynucleotide comprises multiple guanosine-rich sequences.

Claim 31 (canceled).

Claim 32 (original): The method of claim 24, wherein the oligodeoxynucleotide comprises from about two to about four guanosine-rich sequences.

Claim 33 (original): The method of claim 24, wherein the oligodeoxynucleotide comprises at least one TTAGGG motif.

Claim 34 (original): The method of claim 24, wherein the oligodeoxynucleotide comprises multiple TTAGGG motifs.

Claims 35-36 (canceled).

Claim 37 (original): The oligodeoxynucleotide of claim 24, wherein the oligodeoxynucleotide further comprises a CpG motif, and wherein at least one TTAGGG motif is 5' to the CpG motif.

Claim 38 (original): The oligodeoxynucleotide of claim 24, wherein the oligodeoxynucleotide further comprises a CpG motif, wherein the TTAGGG motif is 3' to the CpG motif, and wherein the TTAGGG motif is separated from the CpG motif by at least ten nucleotides.

Claim 39 (original): The method of claim 24, wherein the oligodeoxynucleotide comprises a sequence selected from the group consisting of SEQ ID NO: 1, SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, SEQ ID NO: 6, SEQ ID NO: 7, SEQ ID NO: 8, SEQ ID NO: 9, SEQ ID NO: 10, SEQ ID NO: 11, SEQ ID NO: 12, SEQ ID NO: 13, SEQ ID NO: 14, SEQ ID NO: 15, SEQ ID NO: 16, SEQ ID NO: 17, SEQ ID NO: 18, SEQ ID NO: 19, SEQ ID NO: 20, SEQ ID NO: 21, SEQ ID NO: 22, SEQ ID NO: 23, SEQ ID NO: 24, and SEQ ID NO: 25.

Claim 40 (original): The method of claim 24, further comprising administering an additional anti-inflammatory, immunosuppressive, or anti-arthritis agent.

Claim 41 (original): The method of claim 40, wherein the agent is a biological response modifier, a disease-modifying antirheumatic drug, a steroid, a nonsteroidal anti-inflammatory drug, or a Cyclo-Oxygenase-2 inhibitor.

Claim 42 (original): The method of claim 40, wherein the agent is anakinra, etanercept, infliximab, leflunomide, prednisone, cortisone, celecoxib, choline magnesium trisalicylate, diclofenac, diclofenac potassium, diclofenac XR, diflunisal, etodolac, etodolac ER, fenoprofen, flurbiprofen oral, ibuprofen, indomethacin, indomethacin SR, indomethacin suppositories, ketoprofen, ketoprofen ER, meclofenamate, meloxicam, nabumetone, naproxen, naproxen CR, naproxen ER, oxaprozin, piroxicam, rofecoxib, salsalate, sulindac, or tolmetin sodium, hyaluronan, or hylan G-F20.

Claim 43 (original): A method of treating or preventing inflammatory arthropathies in a subject comprising contacting immune cells with a therapeutically effective amount of the oligodeoxynucleotide of claim 1, and transferring the immune cells to a subject having or at risk of developing inflammatory arthropathies, thereby treating or preventing the inflammatory arthropathies.

Claims 44-50 (canceled).